EXECUTIVE SUMMARY

HIV/AIDS Annual Report – September 2013
State of Arizona

General Comments

In Arizona's HIV/AIDS reporting, estimates of incidence are based upon the sum of new HIV cases, and new AIDS cases not diagnosed as HIV infections in any prior calendar year. These cases are referred to as *emergent* cases and are used as an estimate of incidence. Cases of HIV/AIDS can only be counted as emergent in the year they were first diagnosed with HIV infection. Persons who were emergent as HIV and diagnosed as AIDS in the same calendar year are counted as emergent AIDS to avoid double counting. This method is the most straightforward method available for estimating incidence. Prevalence, on the other hand, refers to the total summation of infected and alive cases present in the state at the end of the year.

This report includes estimated prevalence and emergence by single year (1990-2012), and the 2012 population estimate for each county/region. Incidence estimates for 5-year reporting timeframes (2002-2006 and 2007-2011)[1] are also included for the purposes of valid comparison with the 5-year timeframes in prior annual reports. These annualized 5-year rates may be regarded as the average annual rate across the 5 years in the reporting timeframe.

[1] Five year rates have a two year delay.

Arizona's Population

Table 1: Arizona Counties' 2011-2012 Population Numbers

			2011-2012 Change	
County	**2011**	**2012**	**N**	**%**
Apache	72,401	73,195	794	1.1%
Cochise	133,289	132,088	-1,201	-0.9%
Coconino	134,511	136,011	1,500	1.1%
Gila	53,144	53,144	0	0.0%
Graham	37,147	37,416	269	0.7%
Greenlee	8,606	8,802	196	2.3%
La Paz	20,419	20,281	-138	-0.7%
Maricopa	3,880,244	3,942,169	61,925	1.6%
Mohave	202,351	203,334	983	0.5%
Navajo	107,398	107,094	-304	-0.3%
Pima	989,569	992,394	2,825	0.3%
Pinal	382,992	387,365	4,373	1.1%
Santa Cruz	47,676	47,303	-373	-0.8%
Yavapai	211,888	212,637	749	0.4%
Yuma	200,870	200,022	-848	-0.4%
Arizona Total	**6,482,505**	**6,553,255**	**70,750**	**1.1%**

Source : US Census Bureau vintage 2011 and 2012 Bridged-race postcensal population estimate

Arizona's population continues to grow as in previous years. The most populous counties experienced an increase in population whereas lesser populated counties remained relatively stable or decreased in size. The state's population grew by 70,750 from 2011 to 2012 according to the U.S. Census Bureau's estimates (Table 1). This represents an Arizona annual growth rate of 1.1%. The three most populous counties in Arizona, Maricopa (+61,925), Pima (+2,825), and Pinal (4,373) have the largest increases in terms of absolute numbers. Arizona's least populated county, Greenlee (2012: 8,802), has the largest rate of increase, 2.3%. Maricopa, which is Arizona's most populous county, has the second highest rate of increase (1.6%). Five out of the twelve counties (Cochise, La Paz, Navajo, Santa Cruz, and Yuma) in Arizona which have a population of less than 250,000 actually had decreases in population.

Current HIV/AIDS Data

Figure 1: Arizona 5-Year Emergent HIV/AIDS Case Rate Trend

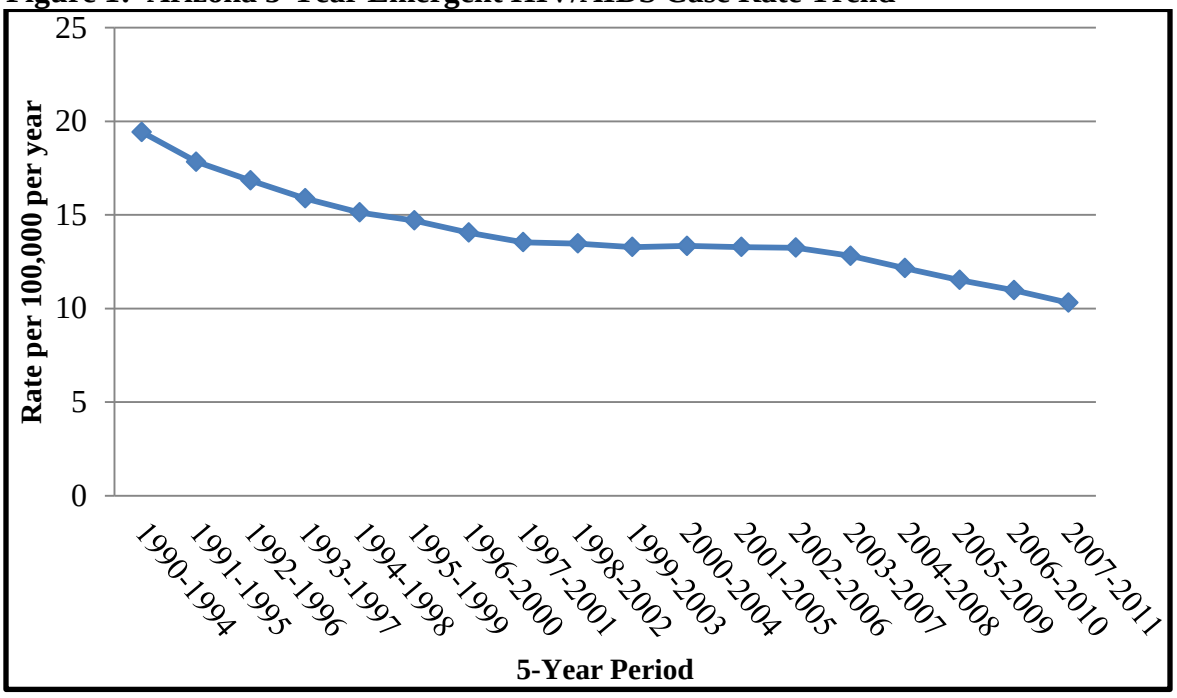


Figure 2: Arizona Emergent HIV/AIDS Case Trend by Single-Year

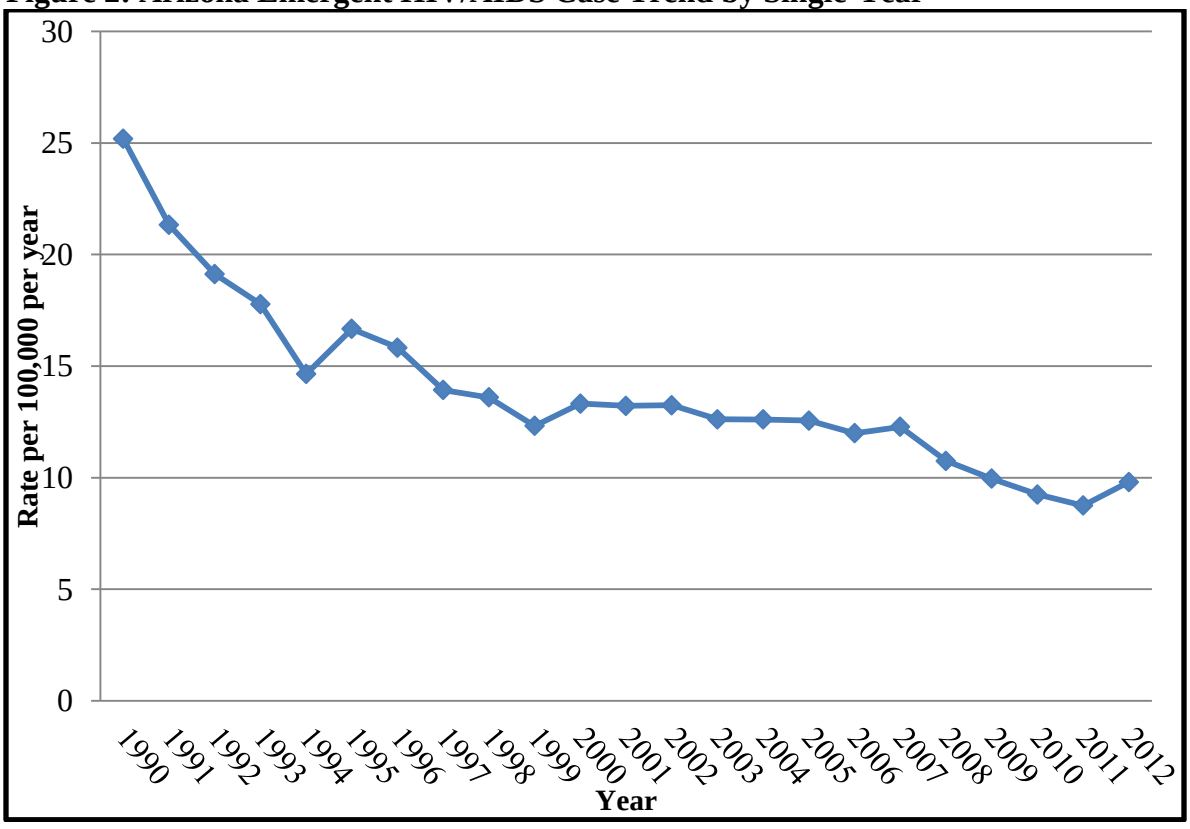


Figure 1 shows the 5-year average rates which have less year-on-year variance than the single-year rates. The five-year emergent HIV/AIDS case rate declined steadily throughout the 1990s, leveling off from the 1998-2002 time period and is beginning to decline slightly again starting with the 2003-2007 time period. The 5-year rates have had an overall decline for the past decade. The 2007-2011 5-year rate is 23% lower than the rate for of 2000-2004.

The single-year rates have fluctuated more than the 5-year rates, but a similar pattern is present (Figure 2). These rates also declined through the 1990's. The 2012 single-year rate is 26% lower than the rate for the year 2000. However, the rate for 2012 (9.81) is slightly higher than in 2011 (8.75)[2]. According to the most recent estimates of the Center for Disease Control and Prevention (CDC), the 2011 estimated HIV/AIDS diagnosis rate for Arizona was under the national rate of 19.1 per 100,000 population (CDC slide set, HIV Surveillance, through 2011data http://www.cdc.gov/hiv/topics/surveillance/resources/slides/general/index.htm).

Figure 3: Arizona HIV/AIDS Prevalence Trend

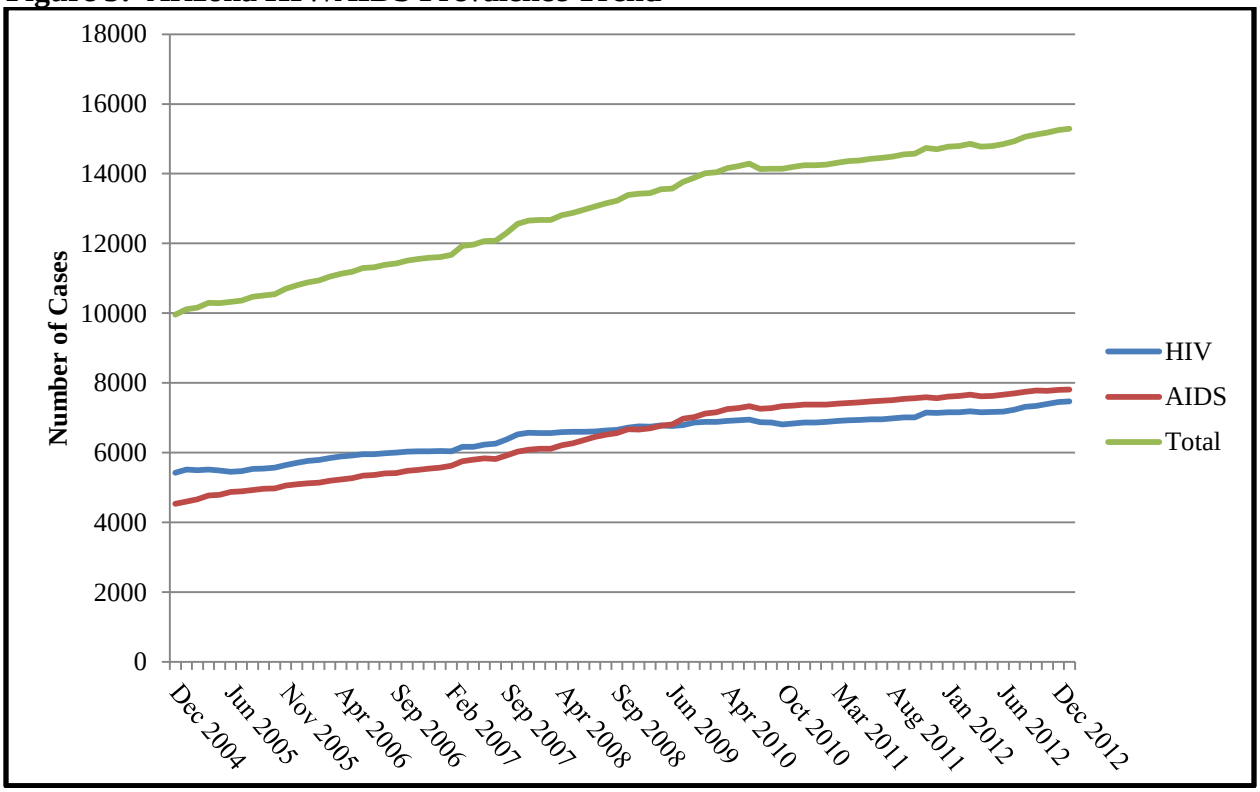


Figure 3 shows the number of HIV/AIDS cases in Arizona. Arizona is currently considered a moderate morbidity state, with CDC-estimated prevalence in the middle rate category among states with well-established confidential name-based HIV reporting. Prevalence numbers have continued to rise in Arizona, but this is expected given that the population of

[2] The Arizona Department of Health Services rates may differ from the rates provided by the Center for Disease Control (CDC) because the CDC applies statistical adjustments on their rates in order to control for underreporting and reporting delay.

Arizona has been increasing every year for the past decade. As of December 2012, prevalence of reported HIV infection is 233.29 cases per 100,000 persons. Currently, there are 15,288 persons living with HIV/AIDS in Arizona, a rise of 21% in 5 years. The increase in prevalence rates may be due to the efficacy of multi-drug treatments for HIV infection, which have sharply reduced the number of HIV-related deaths. Of the 12,657 prevalent cases in the state five years ago, only 11% currently report residing in another state or died in another state. Among prevalent cases, 23.5 % were diagnosed in another state.

In June 2009, the number of persons living with AIDS in Arizona surpassed the number of persons with HIV infection who have not been diagnosed with AIDS (Figure 3). Because the burden of HIV-related disease is greater among persons with AIDS, treatment, utilization, and continuity of care are an increasingly critical issues. Nevertheless, as of December 2012 the number of people with AIDS and HIV are close to converging again.

Figure 4: Arizona Percentage of Emergent Cases by Reported Risk Behavior, 1990-2011

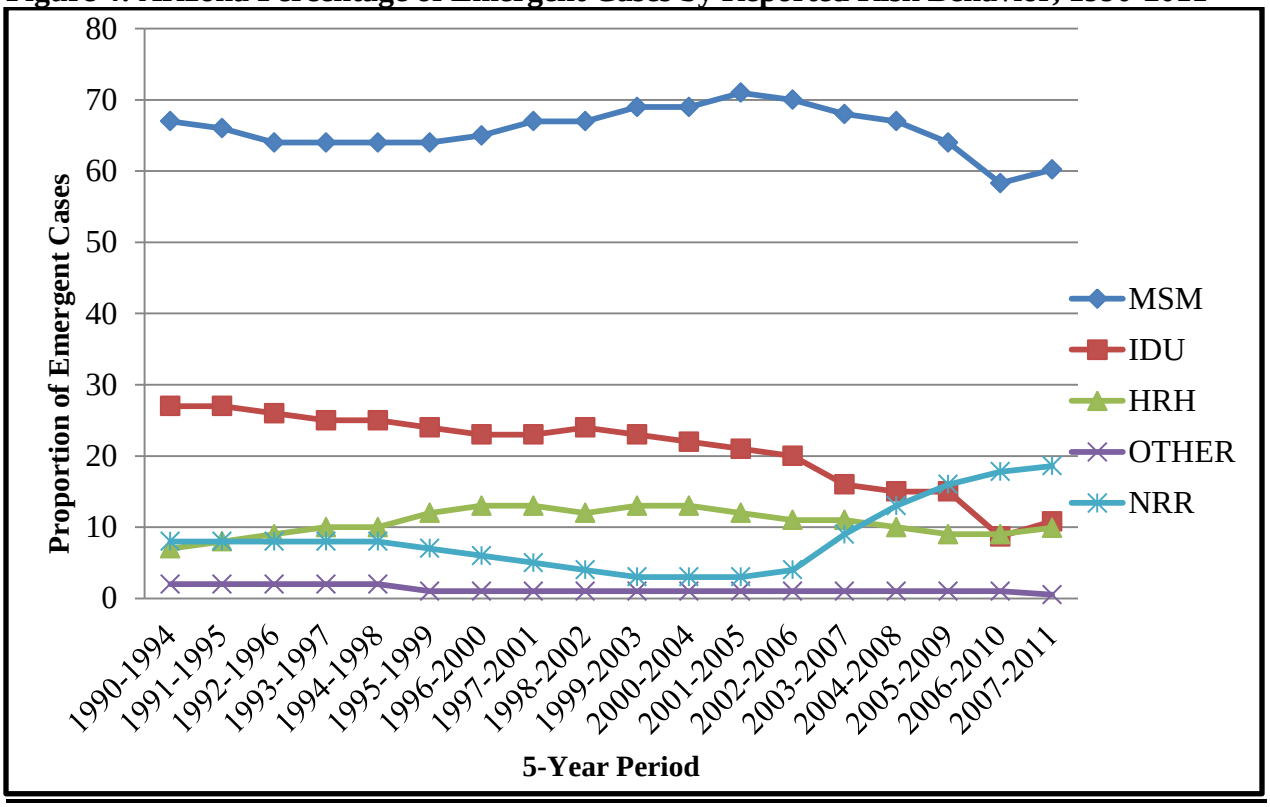
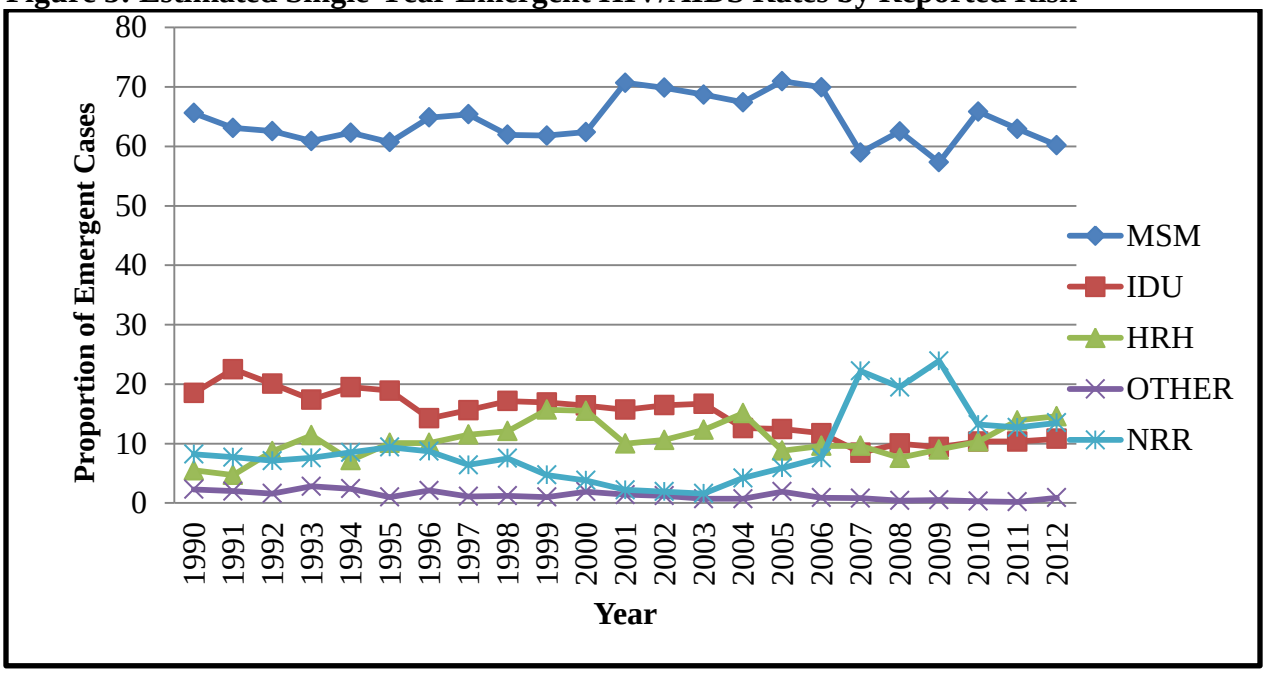


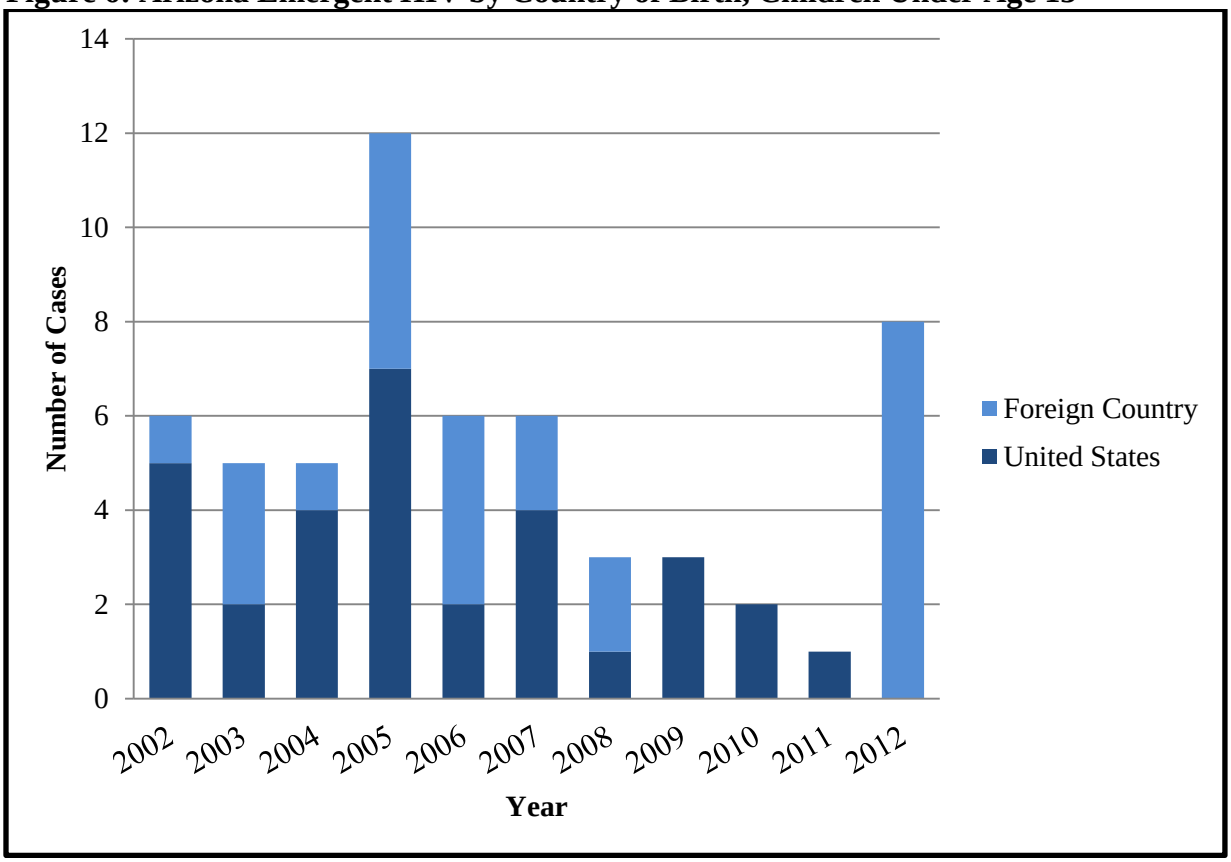
Figure 5: Estimated Single-Year Emergent HIV/AIDS Rates by Reported Risk



Among all the risk groups in Figure 5, men who have sex with men (MSM) account for the largest proportion of emergent HIV/AIDS cases in Arizona. In 2012, the proportion of emergent cases that were MSM-related was 60.2%, the highest among all risk groups. However, the single-year MSM rate has declined from 65.85% in 2010 to 60.2% in 2012. The downward trend in rates among MSM has been mirrored by a similar upward trend among persons with no reported risk (NRR), which has increased from 7.6% in 2006 to 13.5% in 2012.

Pediatric HIV Infection

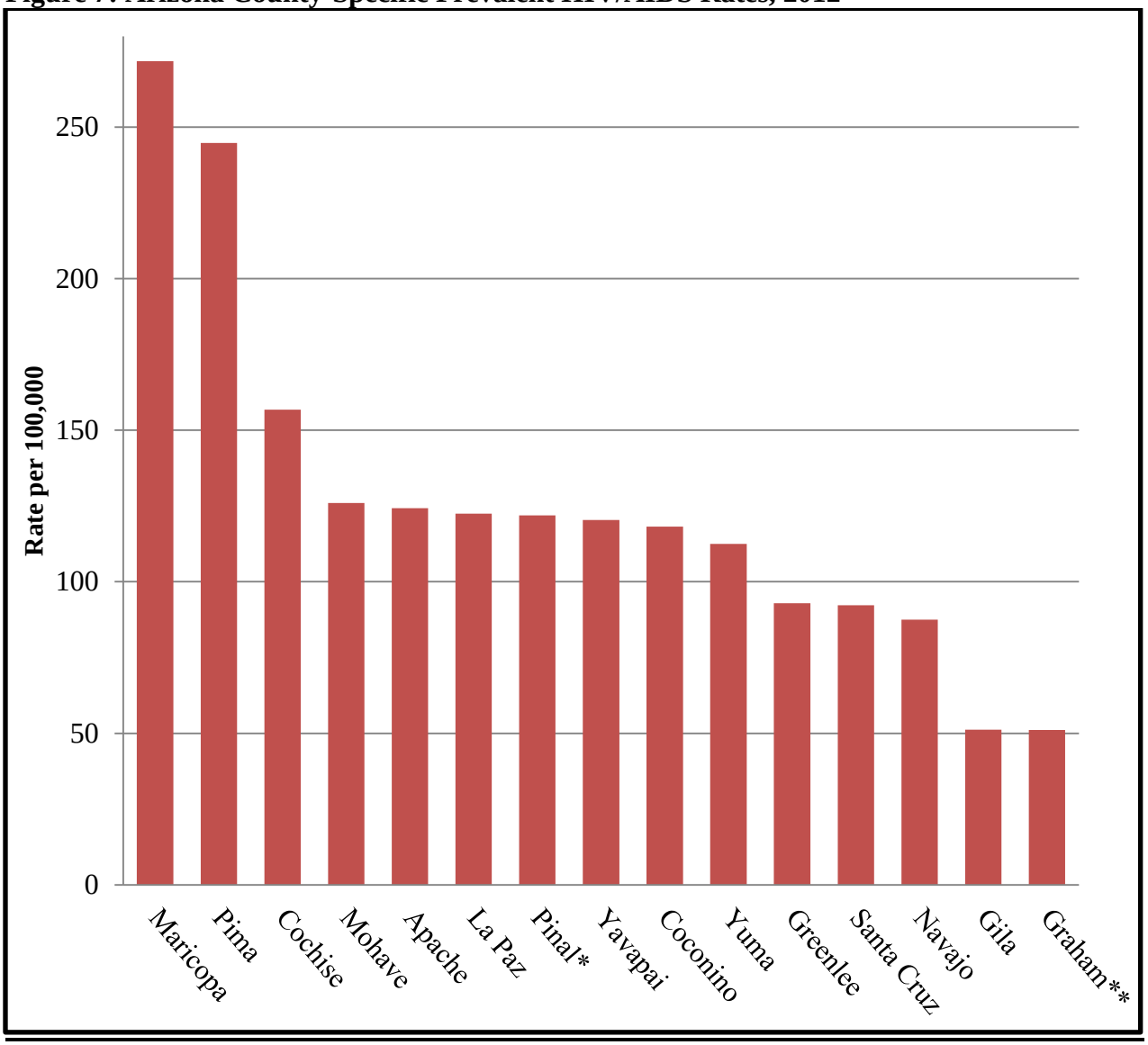
Figure 6: Arizona Emergent HIV by Country of Birth, Children Under Age 13



In 2012, there were eight cases of emergent HIV infection among children under age 13 in Arizona, all of whom were born out of state and all of whom acquired the infection through perinatal transmission. In the last decade, this is the second-highest number of cases in children under age 13 in the last decade (Figure 6). However, it is important to note that none of these cases were born in Arizona and the actual HIV infection event did not take place in 2012 for all cases.

Urbanization of HIV

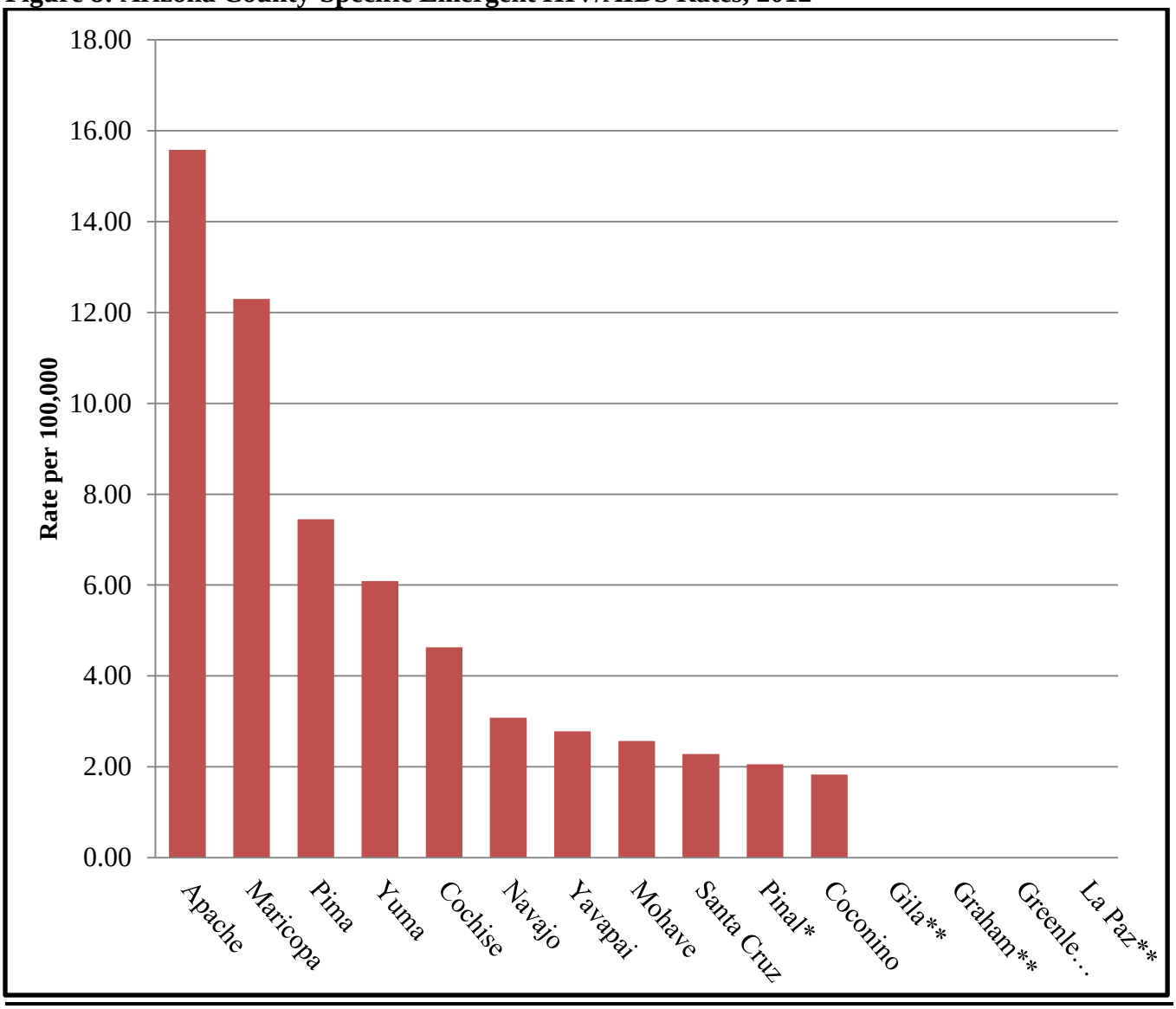
Figure 7: Arizona County-Specific Prevalent HIV/AIDS Rates, 2012



*Incarcerated cases removed. 61% of incident cases in Pinal were incarcerated at the time of diagnosis, and the rate before removal was 14

**Incarcerated cases removed. 33% of incident cases in Graham were incarcerated at the time of diagnosis, and the rate before removal was 5

Figure 8: Arizona County-Specific Emergent HIV/AIDS Rates, 2012



* Incarcerated cases removed. 63% of incident cases in Pinal were incarcerated at the time of diagnosis. The rate before removal was 5.6

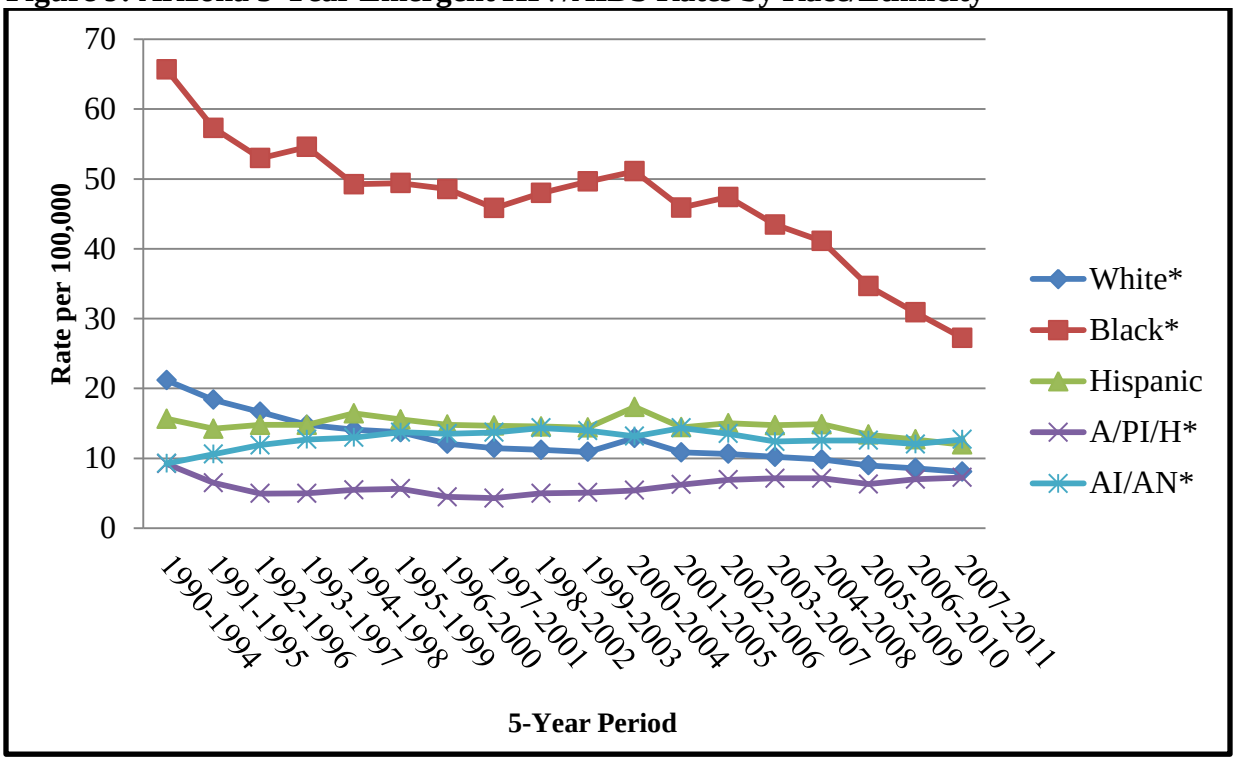
* * These counties had 0 incident cases in 2012.

The majority of the HIV/AIDS prevalence and emergence occurs in the urban counties of Arizona. Maricopa and Pima have the highest prevalence rates, 267.5 and 244.1 per 100,000 respectively (Figure 7). Maricopa and Pima also had the second- and third-highest emergence rates, 12.05 and 8.24 per 100,000 respectively. Apache County had the highest emergent rate at 15.00 per 100,000, but it had 11 emergent cases in 2012, compared to 495 cases in Maricopa and 76 in Pima (Figure 8). Reported emergent rates of HIV/AIDS in the 2007-2011 time period are highest in Maricopa County (12.05 per 100,000).

In 2012, 85% of reported HIV/AIDS prevalence and 83% of emergent infections occur in urban counties. The average rate of HIV/AIDS emergent infection and HIV/AIDS prevalence in urban counties in Arizona is, respectively, 160% and 83% greater than the average rates in rural counties.

Race/Ethnicity Disparities

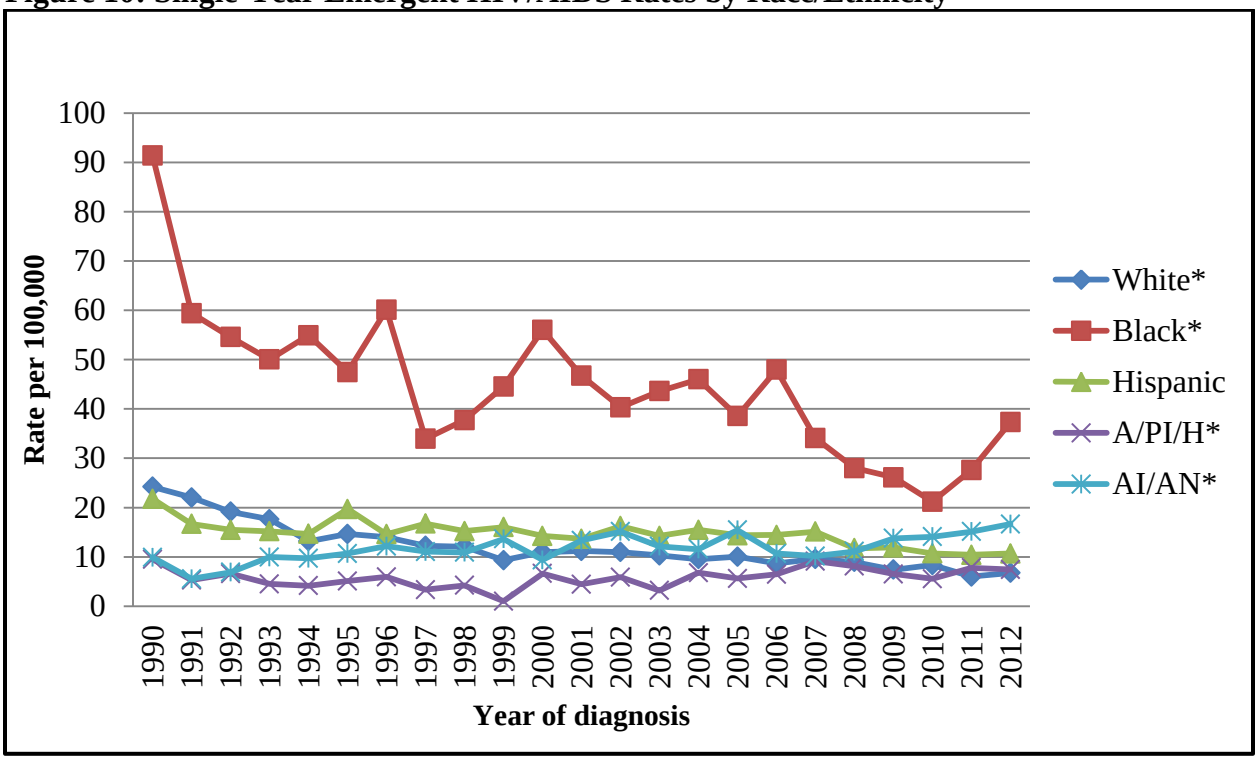
Figure 9: Arizona 5-Year Emergent HIV/AIDS Rates by Race/Ethnicity



*Non-Hispanic, A/PI/H=Asian/Pacific Islander/Native Hawaiian, AI/AN=American Indian/Alaska Native

Rates of HIV/AIDS prevalence and emergence differ sharply between Black Non-Hispanics and other racial/ethnic groups in Arizona. According to the most recent 5-year emergent rates (Figure 9), the rate of HIV/AIDS emergence in Black Non-Hispanics is 164% higher than the statewide average. The single-year rates show the same pattern; the 2012 emergent HIV/AIDS rate among Black Non-Hispanics in Arizona is 281% greater than the statewide average. These results are consistent with national data. The CDC estimates Black Non-Hispanics made up 46% of new 2011 HIV diagnoses despite composing only 12% of the overall population (CDC slide set, HIV Surveillance by race/ethnicity, through 2011data http://www.cdc.gov/hiv/topics/surveillance/resources/slides/general/index.htm).

Figure 10: Single-Year Emergent HIV/AIDS Rates by Race/Ethnicity



*Non-Hispanic, A/PI/H=Asian/Pacific Islander/Native Hawaiian, AI/AN=American Indian/Alaska Native

Spectrum of Care

Figure 11: Spectrum of Care Engagement – Arizona Prevalent Cases 2012

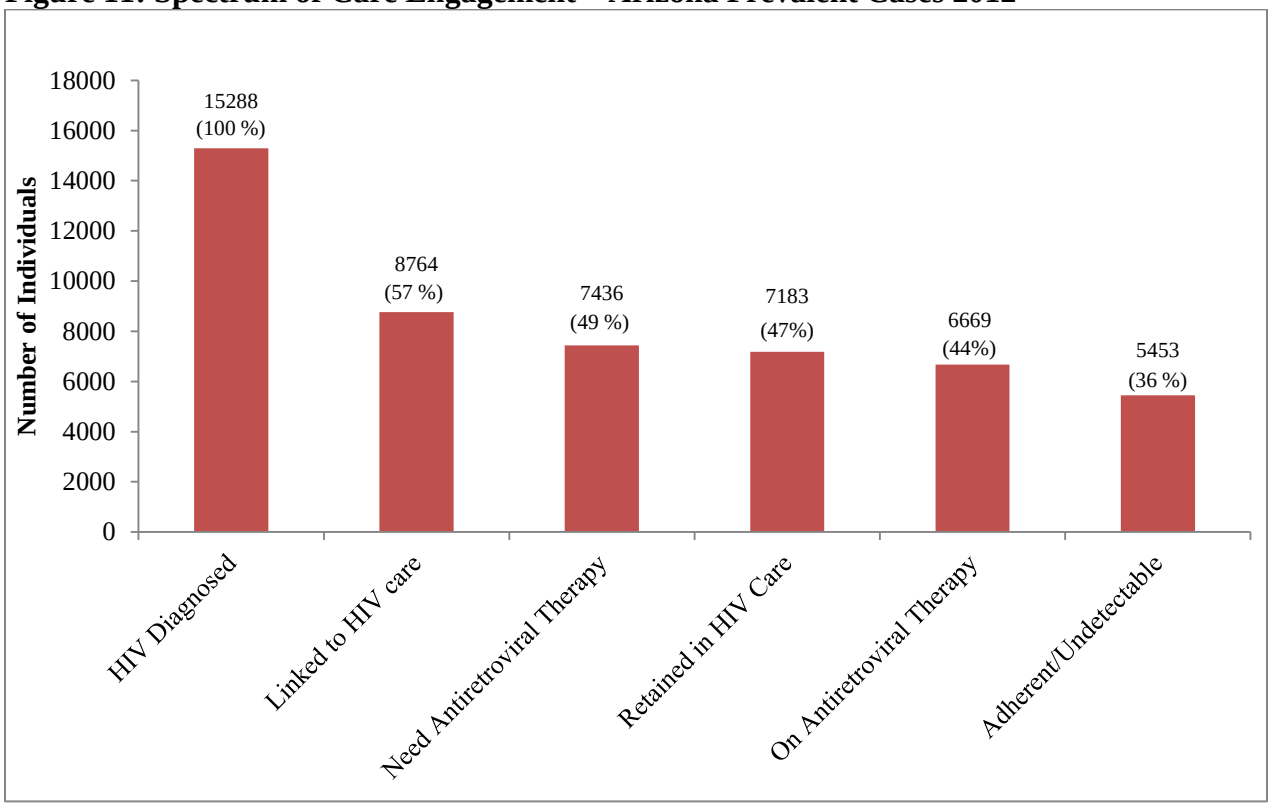


Figure 11 displays the Spectrum of Care Engagement for Arizona's prevalent cases (for definitions of each category, see the Spectrum of Care Cascade document). Out of the 15,288 HIV diagnosed cases, 57% were linked to care during the year and 47% were cases retained in care from the previous year. It is estimated that slightly less than half of the cases (44%) are on antiretroviral therapy, and 49% of prevalent cases should be receiving antiretroviral therapy under current treatment guidelines.